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Greving, JP; Denig, P; de Zeeuw, D; Haaijer-Ruskamp, FM

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Jacoba P. Greving · Petra Denig · Dick de Zeeuw · Flora M. Haaijer-Ruskamp

Physicians' attitudes towards treatment guidelines: differences between teaching and nonteaching hospitals

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Abstract *Objective:* To investigate whether physicians' attitudes towards treatment guidelines for primary and secondary care differ between teaching and nonteaching hospitals shortly before and 4 years after the guidelines' introduction. *Methods:* Possible barriers and facilitators of joint treatment guidelines were obtained by self-administered questionnaires twice during the study period. Questionnaires were distributed among all internists and cardiologists in the Groningen region of The Netherlands. *Results:* Physicians from teaching and nonteaching hospitals differed in attitude regarding the content and usefulness of the guidelines. Physicians from nonteaching hospitals more often believed that the guidelines are too restrictive (64% vs. 18%) and too rigid to apply to individual patients (14% vs. 6%) and that they oversimplify medical practice (79% vs. 35%). Physicians from teaching hospitals more often agreed that good recommendations for first-choice drugs had been made (76% vs. 50%) and that these guidelines are a convenient source of advice (94% vs. 57%), can facilitate communication with general practitioners (94% vs. 71%), and can improve the quality of pharmacotherapeutic care (88% vs. 43%). Four years later, a larger proportion of physicians from both hospital settings had a negative attitude towards the usefulness of the guidelines, but the difference in attitude between teaching and nonteaching hospitals remained the same. *Conclusion:* Physicians from nonteaching hospitals were less positive about the usefulness of joint treatment guidelines than physicians from teaching hospitals were. Results from studies on the implementation of guidelines in teaching hospitals can therefore not be transferred to nonteaching settings.

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J. P. Greving (✉) · P. Denig · D. de Zeeuw · F. M. Haaijer-Ruskamp
Department of Clinical Pharmacology,
University Medical Center Groningen,
A Deusinglaan 1,
9713 AV Groningen, The Netherlands
e-mail: j.p.greving@med.umcg.nl
Tel.: +31-50-3632560
Fax: +31-50-3632812

Introduction

Treatment guidelines have evolved greatly in the past 20 years and are regarded as the cornerstone in improved health quality and medical cost control. However, their implementation has proved to be difficult [1, 2]. Understanding physicians' attitudes towards guidelines may be helpful in creating strategies to successfully implement them.

In the year 2000, several programmes were set up in The Netherlands to improve the quality and consistency of therapeutic care between primary and secondary care. The approach chosen in several regions was to develop joint treatment guidelines to be used both by hospital physicians and general practitioners (GPs). In Groningen, a region in the north of The Netherlands, new guidelines were developed by local committees of hospital physicians, GPs, and community and hospital pharmacists. They used available evidence as well as existing national guidelines and local formularies for either primary or secondary care to establish these joint treatment guidelines. Drugs of first choice were chosen for all relevant indications and subpopulations.

Previous research showed that hospital physicians expressed both positive and negative attitudes towards the regional joint treatment guidelines [3]. Other studies found that most hospital physicians had a positive attitude towards guidelines in general, perceiving them to be of educational value and likely to improve quality of care [4–7]. However, physicians also expressed concerns that guidelines were too rigid to apply to individual patients and that they reduced physician autonomy [4, 5, 7]. Physicians' attitudes may differ between settings because of differences in organisational culture and patient populations [8–11]. Little is known about differences in physicians' attitudes across hospital settings. We investigated whether physicians'

attitudes towards regional joint treatment guidelines differed between teaching and nonteaching hospitals shortly before the guidelines' introduction and 4 years later.

Methods

Setting

As part of a larger study evaluating the usefulness of cardiovascular treatment guidelines, we surveyed all general internists and cardiologists in the Groningen region. This region includes five hospitals, 260 GPs, and 570,000 inhabitants. One hospital is a large university hospital where physicians are employed by the hospital. The second is a large teaching hospital where physicians work in private group practices. The remaining three hospitals are nonteaching hospitals where physicians also work in private group practices.

Guideline development and implementation

The first version of the joint treatment guidelines covered 16 therapeutic indications for different specialties. For most of the included topics, local or national guidelines already existed but were intended primarily for either GPs or specialists. The newly developed guidelines were unique by combining recommendations for both professional groups, thereby streamlining treatment choices across the primary-secondary care interface. The first version of the guidelines was distributed to all health care providers by mail in 2001. In 2004, the guidelines were updated and expanded to cover 43 topics. They were again distributed by mail.

During the first 4 years, the local institute for rational drug use developed a few implementation projects for GPs, but no specific programme was developed to implement the joint treatment guidelines in the hospitals. Hospital physicians received only a general newsletter about the regional project twice a year.

Data collection

Possible differences in barriers and facilitators of joint treatment guidelines between teaching and nonteaching hospitals were obtained by self-administered questionnaires twice during the study period. The first questionnaire was given to all 36 general internists and 24 cardiologists working in the Groningen region at the end of 2000, shortly before the introduction of the joint treatment guidelines. In the second survey, the group of internists was expanded with the subspecialties endocrinology and nephrology to a total number of 54, and the number of cardiologists working in the region had increased to 36. The second questionnaire was mailed to all these internists and cardiologists in the autumn of 2004, after the updated version of the guidelines had become available. A single reminder letter and a second copy of the questionnaire were sent to nonrespondents 3 weeks later.

Questionnaires were developed using statements from existing instruments, such as the Attitudes Towards Guidelines Scale [12], and were supplemented by statements derived from previous qualitative research among hospital physicians [13]. The first questionnaire included 34 statements of possible barriers and facilitators of joint treatment guidelines that covered four domains: content of the guidelines (eight items), development process of the guidelines (four items), usefulness and value (15 items), and aspects of organisation and setting (seven items) [3]. The follow-up questionnaire included statements about physicians' perceived usefulness and value of the guidelines on which physicians differed at the time of the introduction (eight items). Attitudes about guidelines were assessed using 7-point ordinal scales, with 1 indicating "strongly agree" and 7 indicating "strongly disagree". The 7-point ordinal scales were collapsed into categories of agreement (response 1–3), neutral (response 4), and disagreement (responses 5–7).

Data analysis

Differences in demographic characteristics between physicians from teaching and nonteaching hospitals and between participants and the regional physician population were tested with chi-square tests. Chi-square tests were also used to determine differences in survey responses between physicians from the two teaching hospitals and three nonteaching hospitals and to assess possible differences in attitudes between early and late respondents and between respondents on the first and second surveys.

Results

First survey

Thirty-one physicians, 15 general internists and 16 cardiologists, completed the questionnaires during the first survey (response rate 52%). The mean and standard deviation of age was 47±7 years; two physicians (6%) were women; and 17 (55%) were working in teaching hospitals. This was not significantly different from the entire group of cardiologists and internists in the Groningen region at that time in terms of gender or percentage of physicians working in teaching hospitals. There were also no significant differences between physicians from teaching and nonteaching hospitals with respect to age, gender, or specialty.

Physicians from teaching and nonteaching hospitals differed in attitude regarding two of the eight items dealing with the guidelines' content and six of the 15 items focussing on the usefulness and value of the guidelines. More physicians from nonteaching hospitals compared with those from teaching hospitals considered the guidelines to be too restrictive and did not agree with the

recommendations made for first-choice drugs (Table 1). Physicians from nonteaching hospitals more often believed that the guidelines were too rigid to apply to individual patients and that they oversimplified medical practice. In addition, physicians from nonteaching hospitals agreed less often that these guidelines could facilitate communication with GPs or could improve the quality of pharmacotherapeutic care.

Almost half of the physicians from teaching hospitals and more than two-thirds of the physicians from nonteaching hospitals perceived no need to use the guidelines. Physicians from nonteaching hospitals also seemed to have more reservations regarding the organisational aspects of implementing these guidelines, but none of these differences were statistically significant.

Table 1 Percentages of hospital physicians who agreed and disagreed with statements about joint treatment guidelines in 2000

	Physicians in teaching hospitals (n=17)		Physicians in nonteaching hospitals (n=14)		Chi^2 test[a] (df=2)
	Agree	Disagree	Agree	Disagree	
Guideline content					
These guidelines are based on scientific evidence	94	6	86	0	
These guidelines recommend what I already do in practice	88	6	93	0	
Within drug classes, good choices have been made in these guidelines	76	24	50	14	p=0.03
These guidelines are outdated	24	59	43	36	
These guidelines are too restrictive	18	71	64	21	p=0.02
These guidelines are too conservative	18	71	36	43	
Too many equivalent drugs are included in these guidelines	6	82	7	71	
These guidelines should have given recommendations on drug class level only	35	59	75	25	
Guideline development process					
The people in the developing committees are appropriate representatives of my professional group	63	19	71	14	
These guidelines are developed by experts	94	0	93	7	
The guideline development initiative is dominated too much by financial interests	50	19	79	0	
The distance between the developers of these guidelines and practitioners is too big	44	19	50	14	
Usefulness and value of guidelines					
These guidelines are useful as an educational tool	94	0	79	21	
These guidelines are a convenient source of advice	94	0	57	29	p=0.03
These guidelines can facilitate communication with general practitioners	94	0	71	29	p=0.05
These guidelines can facilitate communication with patients and families	59	24	43	43	
These guidelines can improve the quality of pharmacotherapeutic care	88	0	43	21	p=0.02
These guidelines can lead to better harmony between primary and secondary care	88	6	92	8	
These guidelines can lead to cost savings	59	12	57	29	
These guidelines are well-applicable in practice	88	0	57	14	
These guidelines facilitate taking over patients from colleagues	59	24	50	36	
These guidelines can be misused by government and insurance companies	59	18	93	7	
These guidelines limit innovation	47	47	79	21	
I do not need these guidelines	47	41	71	21	
These guidelines challenge my professional autonomy	19	69	79	14	p<0.01
These guideline oversimplify medical practice	35	47	79	14	p=0.05
Many of my patients cannot be treated according to these guidelines	6	88	14	43	p=0.03
Organisation and setting					
Most of my colleagues have disapproving attitudes about these guidelines	18	65	29	36	
These guidelines are not valued in my practice organisation	12	59	21	21	
Implementing these guidelines is too time-consuming and expensive	12	65	50	36	
With these guidelines I lose industry support for conducting research	35	65	36	57	
With these guidelines I lose industry support for conferences and educational meetings	24	65	50	43	
Some of my patients do not want to be treated according to these guidelines	18	65	54	38	
These guidelines thwart local guidelines and agreements	0	76	21	64	

[a]Comparing numbers of specialists and general practitioners agreeing, disagreeing, or having a neutral opinion; only p-values ≤0.05 are reported

Table 2 Percentages of hospital physicians who agreed and disagreed with statements about joint treatment guidelines in 2004

	Physicians in teaching hospitals (n=38)		Physicians in nonteaching hospitals (n=12)		Chi^2 test[a] (df=2)
	Agree	Disagree	Agree	Disagree	
Usefulness and value of guidelines					
These guidelines are a convenient source of advice	66	11	50	25	
These guidelines can facilitate communication with general practitioners	76	5	33	25	p=0.02
These guidelines can improve quality of pharmacotherapeutic care	61	8	27	45	p=0.01
These guidelines are well-applicable in practice	37	16	17	33	
These guidelines limit innovation	45	39	67	0	p=0.03
These guidelines challenge my professional autonomy	37	39	83	0	p=0.01
Many of my patients cannot be treated according to these guidelines	26	29	58	0	p=0.04
These guidelines oversimplify medical practice	47	29	83	8	

[a]Comparing numbers of specialists and general practitioners agreeing, disagreeing, or having a neutral opinion; only p-values ≤0.05 are reported

Most physicians agreed that the guidelines were developed by experts (93%), useful as an educational tool (87%), well-applicable in practice (74%), and likely to improve harmonisation between primary and secondary care (90%). Physicians from teaching hospitals in particular agreed that the guidelines were a convenient source of advice. At the same time, many physicians expressed concerns about misuse of these guidelines by government and insurance companies (74%) and negative influence of guidelines on innovation (61%). Many physicians reported that the guideline development initiative was dominated too much by financial interests (63%).

Second survey

Of the 90 physicians surveyed 4 years after the introduction of the regional joint treatment guidelines, 50 (56%) responded to the survey, 32 internists and 18 cardiologists. Participating physicians had a mean age of 47±8 years; six (12%) were women; and 38 (76%) were working in teaching hospitals. This was representative for the entire group of cardiologists and internists in the Groningen region at that time in terms of gender and percentage of physicians working in teaching hospitals.

Overall, a larger proportion of physicians from both hospital settings had a negative attitude towards usefulness and value of the guidelines at the second survey, but the differences in attitudes between teaching and nonteaching hospitals remained similar (Table 2). Comparing the first and the second surveys as independent samples, significantly more negative attitudes were observed for three of the eight statements (chi-square tests, p<0.05).

Late respondent analysis

On average, 40% of the late respondents (n=11) and 26% of the early respondents (n=39) expressed neutral responses. Early respondents had more positive as well as more negative attitudes than late respondents. Overall, there was no significant difference in attitudes between the early and the late respondents (chi-square test, p>0.05). In addition, respondents and nonrespondents did not differ in terms of gender, specialty, or percentage working in teaching hospitals.

Discussion

We found that physicians from nonteaching hospitals viewed the regional joint treatment guidelines less favourably than did physicians from teaching hospitals. Four years after the guidelines' introduction, more physicians from both settings expressed a negative attitude towards the usefulness of these guidelines, while the difference between teaching and nonteaching hospitals remained the same.

We evaluated the attitudes towards these guidelines without being involved in their development or implementation. This independent status may have been an important factor for retrieving candid answers from the respondents. Treatment guidelines were perceived as a burden and a source of irritation by many hospital physicians, particularly in nonteaching hospitals. Despite the fact that the physicians felt adequately represented in the committees that developed the guidelines and believed that the guidelines were based on scientific evidence, they were not content with the idea of being faced with the guidelines themselves. Important beliefs underlying this discontent are that (1) specialists believe they already make good drug choices and do not need guidelines telling them what to do in their fields of expertise, and (2) guidelines restrict the choice of drugs to save costs for the government and insurance companies but may lead to loss of industry support for research and conferences. Dependence on industry sponsorship for education and research can make physicians unwilling to divert from certain brand preferences [14].

Physicians from teaching hospitals were more positive than those from nonteaching hospitals. Explanations may

lie in differences in utility of the guidelines, patient populations, economic and organisational consequences, and cultural differences [8–11]. Utility of the guidelines appears to be a relevant factor in our study. In teaching hospitals, physicians can use the guidelines in their educational activities; therefore, they see more benefits of having the guidelines. Surprisingly, physicians from nonteaching hospitals expected more problems regarding their patient population than physicians from teaching hospitals did. This is in contrast with an earlier finding that especially in teaching hospitals one could expect difficulties with treating complex patients according to guideline recommendations [13]. Strong physician leadership advocating guideline use may be an important factor [15]. In teaching hospitals, one can expect a stronger culture to promote the use of evidence-based guidelines. Results from an Italian survey suggest that there may also be economic and organisational reasons for differences in attitudes towards guidelines, but our study does not support this finding [4]. Physicians from private and nonprivate practices represented within our two teaching hospitals showed similar attitudes. Teaching status appears to be a more important factor than being employed by the hospital or not.

Our study provided insight into the changing attitude towards usefulness of treatment guidelines over time. The finding that physicians became more negative has been observed before, and it has been suggested that physicians' attitudes may change as they perceive that guidelines are being used more for cost containment than for quality improvement [6]. This was clearly an issue of discussion in our region, since the guidelines have been used in 2002 in negotiations to make cost agreements with the industry. Another factor that might have influenced changes in attitude over time is the lack of a specific implementation programme. The joint treatment guidelines in our study were distributed by mail, and such passive dissemination has been shown to be largely ineffective [16]. Supporting strategies to implement treatment guidelines soon after their introduction may be crucial. To motivate physicians to start using the guidelines at present, an intensive implementation strategy will be needed.

Our study has some limitations. Using a questionnaire is an efficient way to examine attitudes and barriers, but socially desirable answers may form a problem. We have tried to limit this by using positive as well as negative statements and by emphasising that the data would be processed anonymously. Furthermore, the generalisation of our findings is somewhat limited because we studied a modest number of physicians in each hospital setting, and not all physicians participated in both surveys. Although we achieved response rates above 50%, response bias may affect the results. We observed that early respondents expressed more pronounced attitudes compared with physicians who responded after the reminder and, possibly, with the remaining nonrespondents. However, the early respondents had both more positive and more negative attitudes. Therefore, we do not expect our results to be skewed due to response bias, for instance towards the more discontented physicians. There were also no substantial differences between respondents and nonrespondents with respect to gender, specialty, or percentage of physicians working in teaching hospitals.

In conclusion, physicians' attitudes towards treatment guidelines differ between teaching and nonteaching hospitals. Up to now, most research focussing on the implementation of treatment guidelines has been performed in teaching hospitals. Considering the findings of our study, results from such studies cannot be transferred to nonteaching settings. One might expect more difficulties when treatment guidelines are implemented in a nonteaching hospital setting.

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